Environmental Engineering and Pollution Control/3M

PO Box 33331
St. Paul, Minnesota 55133-3331
612/778 4791

February 5, 1987

RE: 3M Cordova RCRA Facility Assessment

ILD 054 236 443

Ms. Juana Rojo
U.S. EPA Region V
230 South Dearborn Street
Chicago, IL 60604

Dear Ms. Rojo:

Attached is information relating to the 3M Cordova plant site which is intended to address issues raised as a part of U.S. EPA Region 5's RCRA Facility Assessment(RFA). The information included with this letter deals with the operation and monitoring of the plant wastewater treatment facilities and sludge incorporation areas. Also attached is related information on site hydrogeology. Specific information included with this document is summarized as follows:

(1) A process flow schematic for the plant's wastewater treatment system(Figure 1),
(2) A plot plan of the plant's wastewater treatment system which illustrates the wastewater flow(Figure 2),
(3) Priority pollutant analysis conducted as a part of the plant's NPDES permit for the last three years(Attachment 1),
(4) TCLP analysis of the aerobic digestor and magnetic oxide sludges, i.e. sludges which are land incorporated onsite(Attachment 2),
(5) Priority Pollutant Volatile Organic analysis(EPA Method 624) for the plant water supply, which withdraws water from the aquifer beneath the sludge incorporation area and a dewatering system used during recent construction activities around waste treatment (Attachment 3),
(6) A report entitled, "Monitoring Activities for the Cordova Sludge Incorporation Project" which summarizes data collected as part of the permit requirements for the last several years. This consists primarily of metals and agronomic information from the soil and shallow groundwater(Attachment 4),
(7) A drawing depicting water elevations in the sludge application areas(Figure 3),and

COPY 2

Its possible that 3M has additional information already on hand which Region 5 would find useful in their evaluation. In addition, 3M could perform additional sampling and analysis to confirm those results which are critical. Please call me if you have any questions or if you require any additional information.

Sincerely yours,

Dana M. Schnobrich
Senior Environmental Engineer

cc: Mr. Larry Eastep, Manager
Permit Section
Div. of Pollution Control
IL Envir. Protection Agency
2200 Churchill Road
Springfield, IL 62006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: DEC 19 1986

SUBJECT: RCRA Facility Assessment
3M, Cordova, Illinois

FROM: Juana E. Rojo JER
TPS, Illinois Unit

TO: Part B File, ILD 054236443

SUMMARY

A RCRA Facility Assessment (RFA) was completed for the 3M Company facility in Cordova, Illinois. The principal objective of the RFA is to determine whether there is sufficient evidence of a release to require the owner/operator to undertake additional investigations to characterize the nature, extent, and rate of migration of contaminant releases of concern. The RFA includes a Preliminary Review (PR), a Visual Site Inspection (VSI), and a Sampling Inspection (SI) if required.

The PR for 3M consisted of the review of all available files, including the facility's Certification Regarding Potential Releases from Solid Wastes Management Units (SWMU's). The VSI of the 3M, Cordova facility identified two solid waste management units of concern; these are the wastewater treatment plant (specifically, the surface impoundments which are part of the wastewater treatment plant), and the sludge incorporation area, which is the farmland adjacent to the plant site where the 3M's "aerobic digester sludge" is applied. It was also determined that the other areas where hazardous and/or solid wastes are managed (RCRA regulated units, solvent truck load areas and staging areas) do not require further action at this time.

The VSI report, dated August 11, 1986, summarizes the information gathered during the site inspection, and contain two maps and one diagram (wastewater treatment plant), which show the areas inspected. The sludge incorporation areas were not shown in the maps, because at the time the VSI report was prepared, very limited information was available on the 3M's sludge incorporation program. Consequently, the VSI was followed by a U.S. EPA letter requesting additional information on the land farm areas, the sludge applied to them, and the design and operation of the surface impoundments and tanks used for the treatment of process wastewater.

In response to our request for additional information, 3M submitted a report on its sludge incorporation program and a few maps which identify the areas where the sludge is applied. One of the maps has been attached to this report. Still, the information provided by 3M was not sufficient to concur with the Company's determination that no releases of hazardous wastes or hazardous constituents have occurred at the Cordova facility. Our main concern is the lack of information on the compositon of the wastewaters, and on the design and operation of the sludge holding ponds (surface impoundments). Therefore,

59 (duplicate)

the U.S. EPA portion of the RCRA Hazardous Waste Permit for 3M will require, using a schedule of compliance, that 3M clearly identify the wastes which are treated and land-incorporated in the specified SWMU's, and the hazardous constituents contained in the wastes.

In addition, if hazardous constituents are found in the wastes, 3M will have to conduct a RCRA Facility Investigation (RFI). The purpose of the RFI is to determine the nature, the rate and extent of migration, and the concentrations of hazardous waste or constituents, if any, released from the solid waste management units in the groundwater and soil. This information will be used to determine the need, scope, and design of a corrective action program.

It is important to know that although a Sampling Inspection (SI) has not been performed at 3M, the possibility has not been ruled out, especially if 3M contests the RFI required in the permit.

The following is a summary of the main activities of the facility and a brief description of the solid waste management units of concern.

FACILITY DESCRIPTION

General

The 3M Company Plant, located at 22614 Route 84N, Cordova, Illinois 61242, is operated by the Specialty Chemicals Division and Magnetic Audio/Video Division of 3M Company. The Speciality Chemical Division manufactures chemical products such as fluorochemicals, resins, and polymers for use by other 3M divisions. The hazardous waste produced by these manufacturing processes consist primarily of spent solvents used in cleaning operations, ignitable by-products, and corrosive liquids.

These hazardous wastes are managed by several methods depending on their composition. Some are shipped off-site for recycling, while others are stored on-site in the container storage area or the storage tank. Wastes which are determined to be hazardous solely because of ignitability may be incinerated on-site.

The Magnetic Audio/Video Division manufactures iron oxide particles for magnetic recording media. 3M claims that this Division does not generate hazardous waste, except for small quantities of laboratory wastes.

The RCRA hazardous waste permit will allow 3M to continue the operation of a storage and incineration facility.

In general, the facility generates over 1,000 waste streams. In addition, plant operations result in process waters which are treated in a wastewater treatment plant along with sanitary wastes. The treated wastewater is combined with noncontact cooling waters before being discharged to the Mississippi river under a National Pollution Discharge Elimination System (NPDES). Most of the sludge produced by the treatment of the wastewater is incorporated into the soil of 3M's cornfield, which 3M calls sludge incorporation areas. The rest of the sludge is sent off-site for disposal.

Location

The plant is located in an industrial area 5 1/2 miles north of the town of Cordova, Illinois. Surrounding land uses are industrial, commercial, and agricultural. The Mississippi river is adjacent to the site.

Very little information is available on the subsurface geology. Although 3M installed some wells in 1976 at the beginning of the incorporation program, no hydrologic report was submitted; only the groundwater flow and the position of the wells was provided.

SOLID WASTE MANAGEMENT UNITS THAT REQUIRE FURTHER ACTION

Wastewater Treatment Plant

Organic wastewater from the different process buildings are treted in an activated sludge type biological treatment system. Physical-chemical treatment (neutralization, oxidation, flocculation etc.) is also carried out in some of the tanks. The wastewater treatment plant is shown in Figure 3 of the VSI report.

3M also uses surface impoundments to store wastewater and sludges. Although 3M has not specified the nature of the wastes stored in the impoundments, there are indications that the wastewater contains hazardous constituents, and that the wastewater placed in one of the impoundments can be hazardous by the characteristic of corrosivity. In addition, at least one impoundment is unlined, and the others have plastic liners which are not regularly inspected. Furthermore, 3M has not specified the exact number of impoundments which are part of the wastewater treatment plant.

Recommendation: The surface impoundments which are part of the wastewater treatment plant require further investigation since they appear to have a potential for the release of hazardous waste or constituents to the groundwater. The RFI required in the U.S. EPA portion of the RCRA permit for 3M, will specify that 3M prepare a detailed sampling plan to investigate if releases from the surface impoundments to the groundwater have occurred.

Sludge Incorporation Areas

The sludge incorporation area encompasses some 371 acres of 3M-owned farmland adjacent to the plant site. 3M has been authorized by the Illinois EPA to apply over 3 million gallons of "aerobic digester sludge" into the soil. This activity began in 1975. The sludge is incorporated by 3M personnel. 3M pays a local farmer for farming the land during the summer. All harvested crops (corn) are owned by 3M.

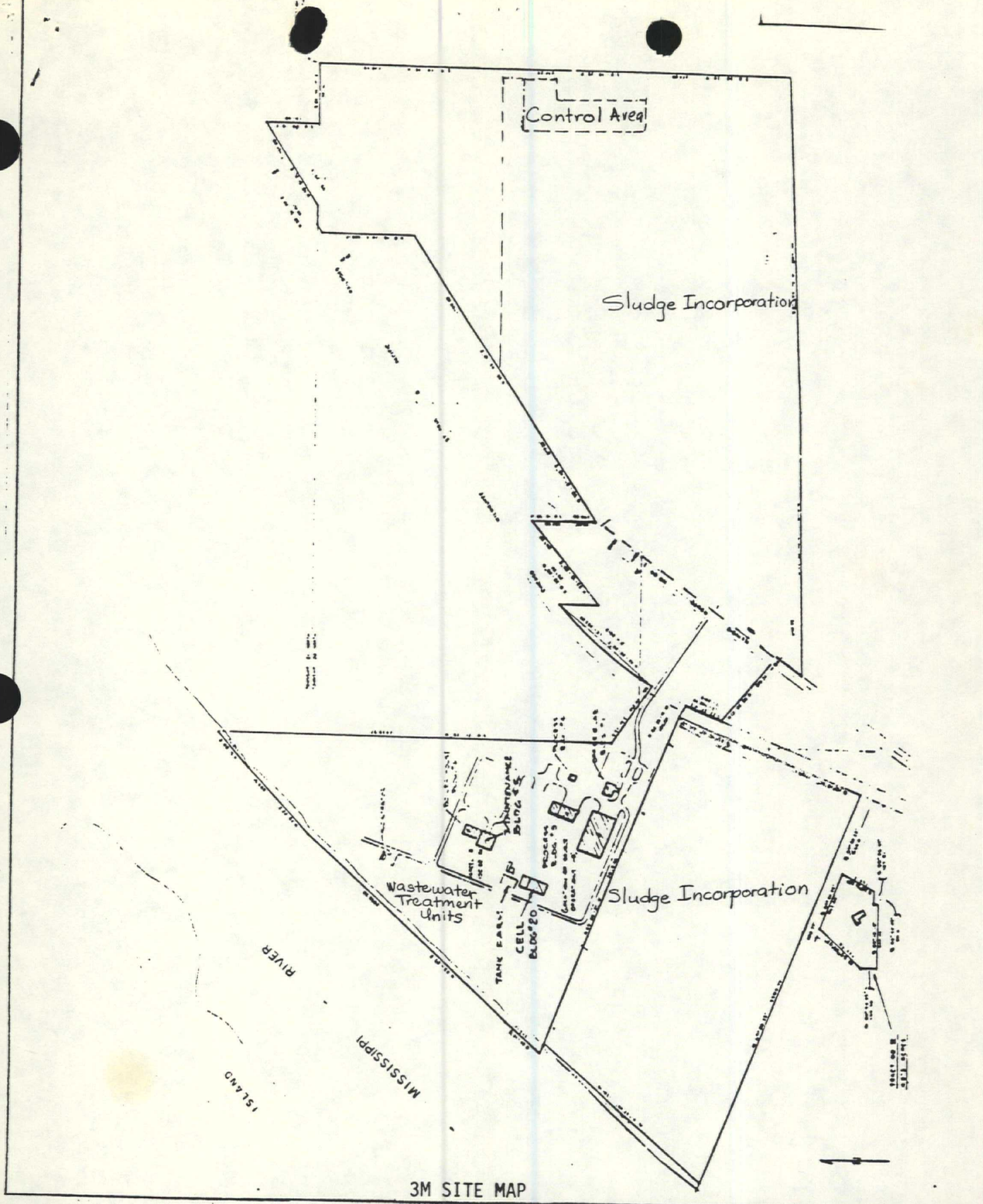
3M submitted some of the semi-annual analyses results that the Company submits to IEPA as a condition of the sludge incorporation permit. The report was dated February, 1982. The data demonstrates that the sludge contains hazardous constituents listed in Appendix VIII of 40 CFR Part 264, such as mercury, arsenic, cadmium and lead in concentrations below the EP Toxicity levels. Methylene chloride and toluene were also detected, at concentration levels of 33 ppm and .3 ppm respectively. 3M does not routinely test the soil for pollutants; instead, the soil samples are basically tested for soil macronutrients and some metals (including lead which was detected in low concentrations).

Groundwater was analyzed for the organic priority pollutants detected in the sludge and for some metals. Methylene chloride was detected in all wells sampled and toluene was detected in three wells. Lead was detected in one groundwater sample in the incorporation area and in another well outside the incorporation area. The nitrate concentration was found to be high, but 3M claims that sludge incorporation is not the source of the nitrate in the groundwater. Other compounds such as pesticides, PCB's and phenols were not detected. It is important to know that the test methods were not specified, and that 3M claims that the higher concentrations of methylene chloride detected by one of the laboratories may be due to contamination of the sample by the laboratory, or interference from a similar compound. However, no laboratory blanks were available to prove 3M's opinion.

In conclusion, the sludge incorporation areas appear to have a potential for the release of hazardous constituents to the soil and groundwater. 3M's 1982 report on its sludge incorporation program has not provided enough information to conclude that no contamination of the subsoil beneath the sludge incorporation areas and of the groundwater has occurred as a result of this activity.

Recommendation:

The RFI required in the U.S. EPA portion of the RCRA permit for 3M will specify that the sludge incorporation areas be investigated. The RFI will require that 3M prepare a detailed sampling plan capable of determining if releases to the subsoil and/or groundwater have occurred.



3M SITE MAP

(Original source: Figure 2 of the "Sludge Incorporation-3M Cordova" report submitted to U.S. EPA on August 29, 1986 in response to a request-for-information letter re. corrective action requirements)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: AUG 11 1986

SUBJECT: Corrective Action Requirements
Visual Site Inspection of 3M Co., Cordova, Illinois

FROM: Juana E. Rojo JERojo

TO: Part B Permit Application ILD ~~040843889~~ 054236443

On July 18, 1986, U.S. EPA conducted a visual site inspection of the 3M facility in Cordova, Illinois, in an effort to identify what solid waste management units exist at the facility, and their potential for releases of hazardous waste and/or hazardous constituents. The following persons participated in the tour of the facility:

Jim Mayka, Technical Programs Section, U.S. EPA
Juana Rojo, Technical Programs Section, U.S.EPA
Patricia Sheller, Environmental Engineer, 3M Co., Cordova
Dana Schnobrich, Environmental Engineer, 3M Co., Minnesota

The following is a summary of the information gathered during the site inspection. Please refer to Figures 1, 2, and 3, which show the areas inspected. The land farm areas were not included in those figures, because 3M has not yet identified their exact location.

General Facility Description

The 3M Company plant located at 22614 Route 84N, Cordova, Illinois, is operated by the Specialty Chemicals Division and the Magnetic Audio/Video Division of 3M Company. The Specialty Chemical Division manufactures chemical products such as fluorochemicals, resins, and polymers, for use by other 3M divisions. The Magnetic Audio/Video Division manufactures iron oxide particles for magnetic recording media.

The plant is located in an industrial area 5 1/2 miles north of the town of Cordova. Surrounding land uses are industrial, commercial, and agricultural.

Wastes

The Specialty Chemical Division, which includes Buildings 2,3,4,6, and 20, generates spent solvents used in cleaning operations, ignitable by-products and corrosive liquid. Some of these waste streams may contain Appendix VIII constituents.

The solvents include heptane, acetone, ethyl acetate, xylene, methanol, etc. The spent filters and scrap polymers and resins from these buildings may also contain solvents and/or Appendix VIII constituents. The corrosive waste appears to be generated mainly by Building 20, which manufactures fluorochemicals.

Spent solvents are usually recycled by a commercial recycling facility, but some of the waste may also be incinerated on site. Liquid waste is used as fuel for the incinerator. None-pumpable waste (solid sludge) is charged via a conveyor belt into the incinerator. Listed wastes and those containing significant concentrations of Appendix VIII are stored before being picked up by personnel from an off-site TSD facility.

The process wastewater generated by Buildings 2,3,4,6, and 20, is discharged to the wastewater treatment at the site. The exact chemical composition of the process wastewater has not been discussed by 3M.

The Magnetic Audio/Video Division, which appears to consist of Building 50 only, produces small quantities of laboratory waste and iron-bearing wastewater. This wastewater (see Figure 3) is mixed with the wastewater from Building 20 into the Wet Well of the wastewater treatment plant. U.S. EPA does not have any data on the chemical composition or the characteristics of the wastewater from Building 50.

Hazardous Waste Management Units

We visited the hazardous waste management units at 3M to identify releases that may have originated at these units. 3M has an incinerator, a feed tank for the incinerator, and containers placed in the waste storage area and near Buildings 3,4, and 20. The waste storage area, which is gravel-paved, is located to the east of the incinerator. 3M is planning to build a secondary containment for the waste storage area. All the areas inspected appeared to be properly managed, and no visible evidence of a release was encountered.

Solid Waste Management Units

In an effort to identify potential solid waste management units, we also inspected production areas in addition to waste management units. We visited Building 3, which is the main production building; the laboratory; and the control room of Building 20, since access to the production area of this building is not allowed without face protection. We were also given general information about the functions of Buildings 2,3,4,6, and 50, the waste they generate, the plant sewer system, and the wastewater treatment plant. We did not find any visible evidence of a release in the production areas. Patricia Sheller, who has worked for 5 years at this facility (and approximately 12 years for 3M), remembers only one spill of waste from the chemical sewer system. This happened because of the rupture of a sludge pipe located by Building 51 (see Figure 1). She believes that the release was properly corrected. It should be noted that 3M claims that the process wastewater is not hazardous. 3M has not specified if the process wastewater contains hazardous constituents.

Patricia Sheller briefly described to us the operation of the wastewater treatment plant, and showed us the numerous ponds and tanks that are part of the plant. Although she did not give specific details about the waste, she mentioned that the waste contained in the Spill Pond (which comes from Building 20), is normally corrosive, having at times a pH less than 2. We also learned that the sludge produced during the first steps of treatment of the wastewater from Buildings 2,3,4, and 6, is sent to Chemolite, which is a 3M TSD facility located in Minnesota. Sludge produced by further treatment of the wastewater is incorporated into the soil of 3M's cornfield, along with the sludge produced by the treatment of the wastewater from Building 50 (see Figure 3). The corn is sold as cattle feed (according to Dana Schnobrich). The treated wastewater is subsequently discharged to the Mississippi river under an NPDES permit issued by the State of Illinois.

Information Gaps

Although no visible evidence of a release was found at 3M, there are indications that the wastewater treatment units are treating wastes that may contain hazardous constituents. Our main concern is the lack of information on the composition of the wastewaters, and on the design and operation of the sludge holding ponds (surface impoundments). Most of the impoundments appear to have plastic liners; Pond 1, however, is unlined. (Patricia Sheller mentioned that Pond 1 was constructed of natural clay.) In addition, there is no data on the compatibility of the waste with the ponds and tanks' liners.

Another important concern is the lack of information on the chemical composition of the sludge applied to the land farms, especially when the corn harvested from the land treatment areas is apparently used to feed cattle.

In conclusion, 3M has not provided sufficient information to enable us to make corrective action determinations for the Cordova facility. A follow-up letter will be sent to the facility requesting additional information.

cc: Jim Mayka, U.S. EPA
Larry Eastep, IEPA

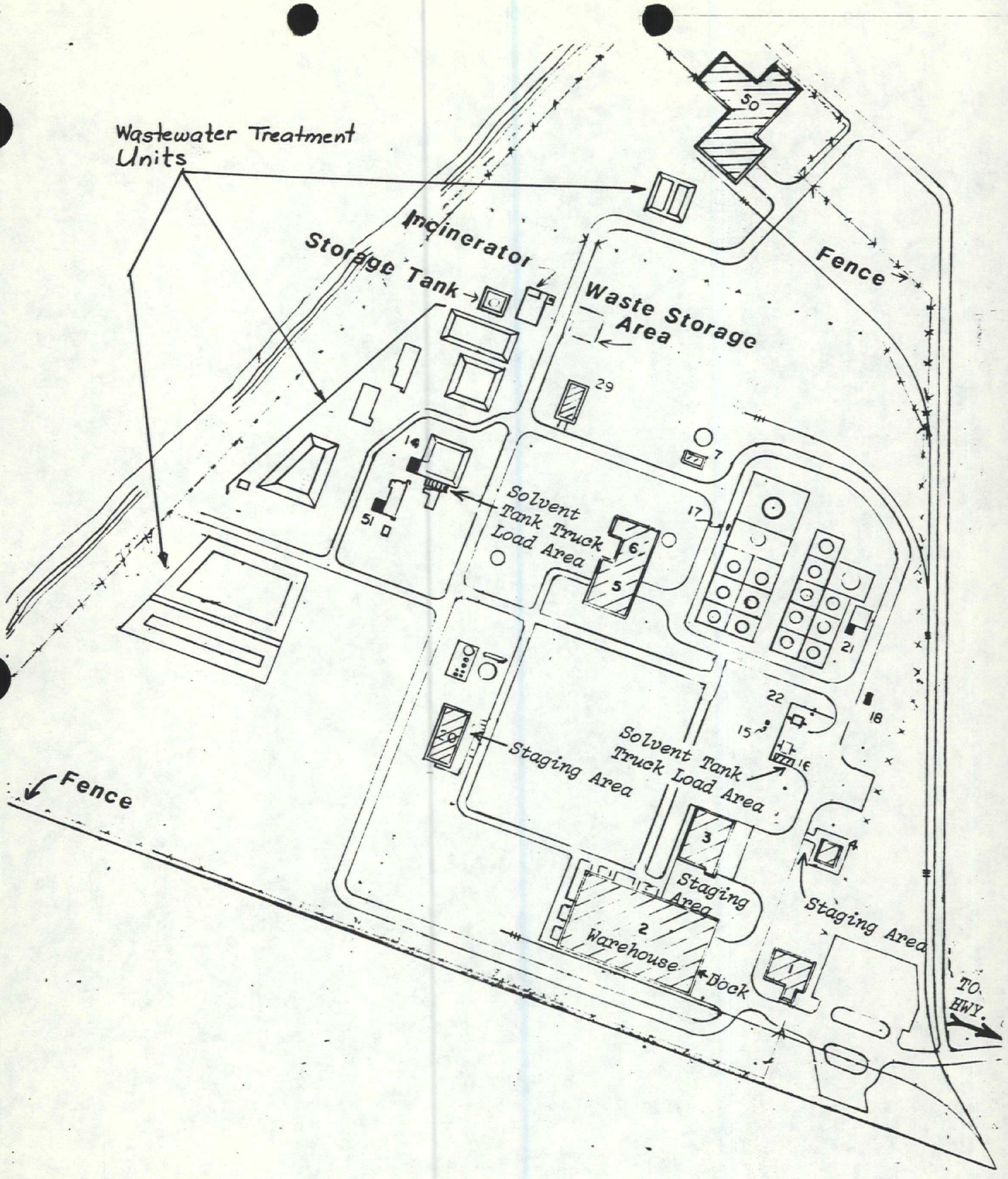
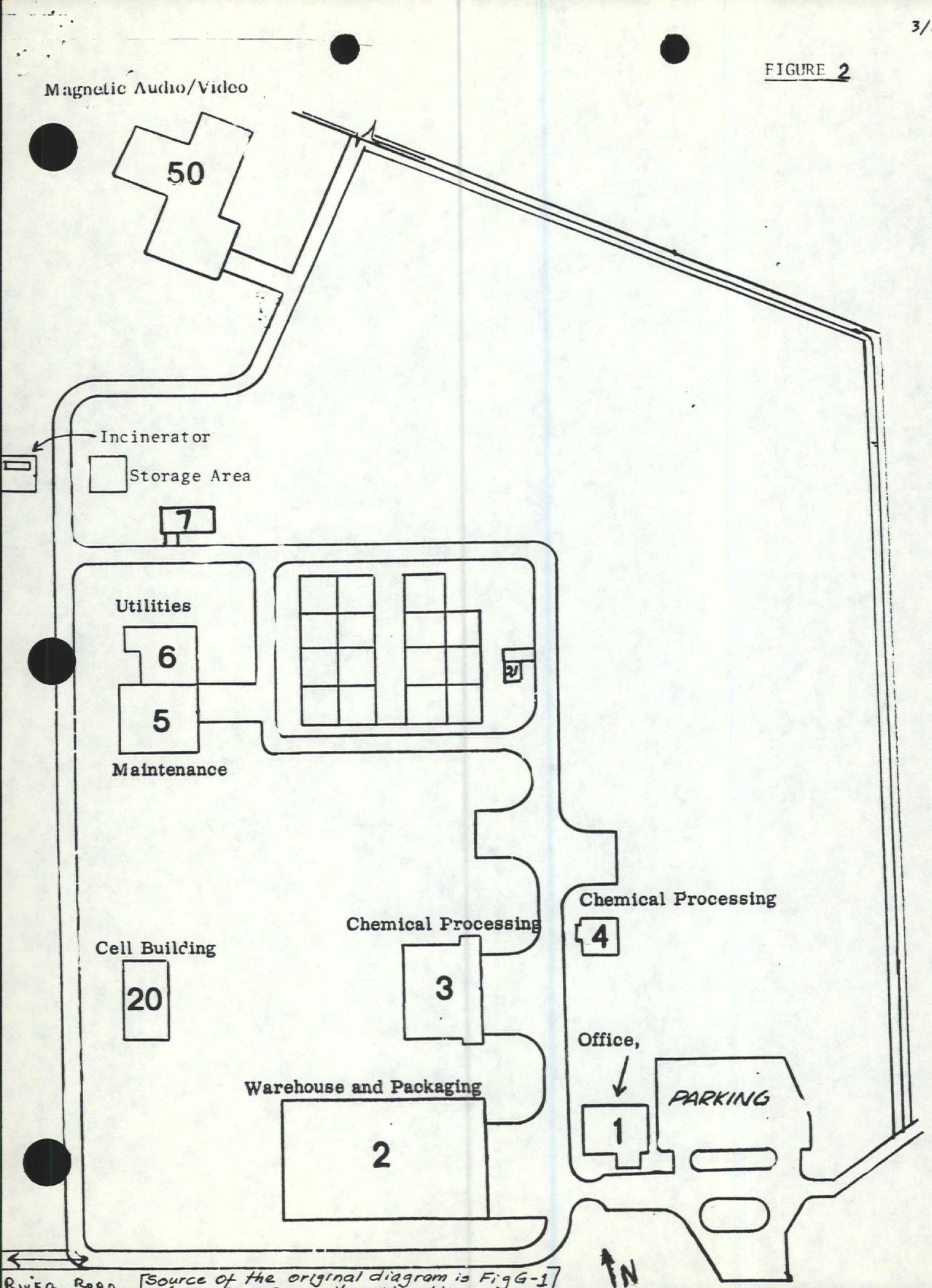


FIGURE 1

[Source of the original diagram is Fig. B-10 of the Part B permit application.]

3/8/84

FIGURE 2



[Source of the original diagram is Fig G-1 of the Part B permit application.]

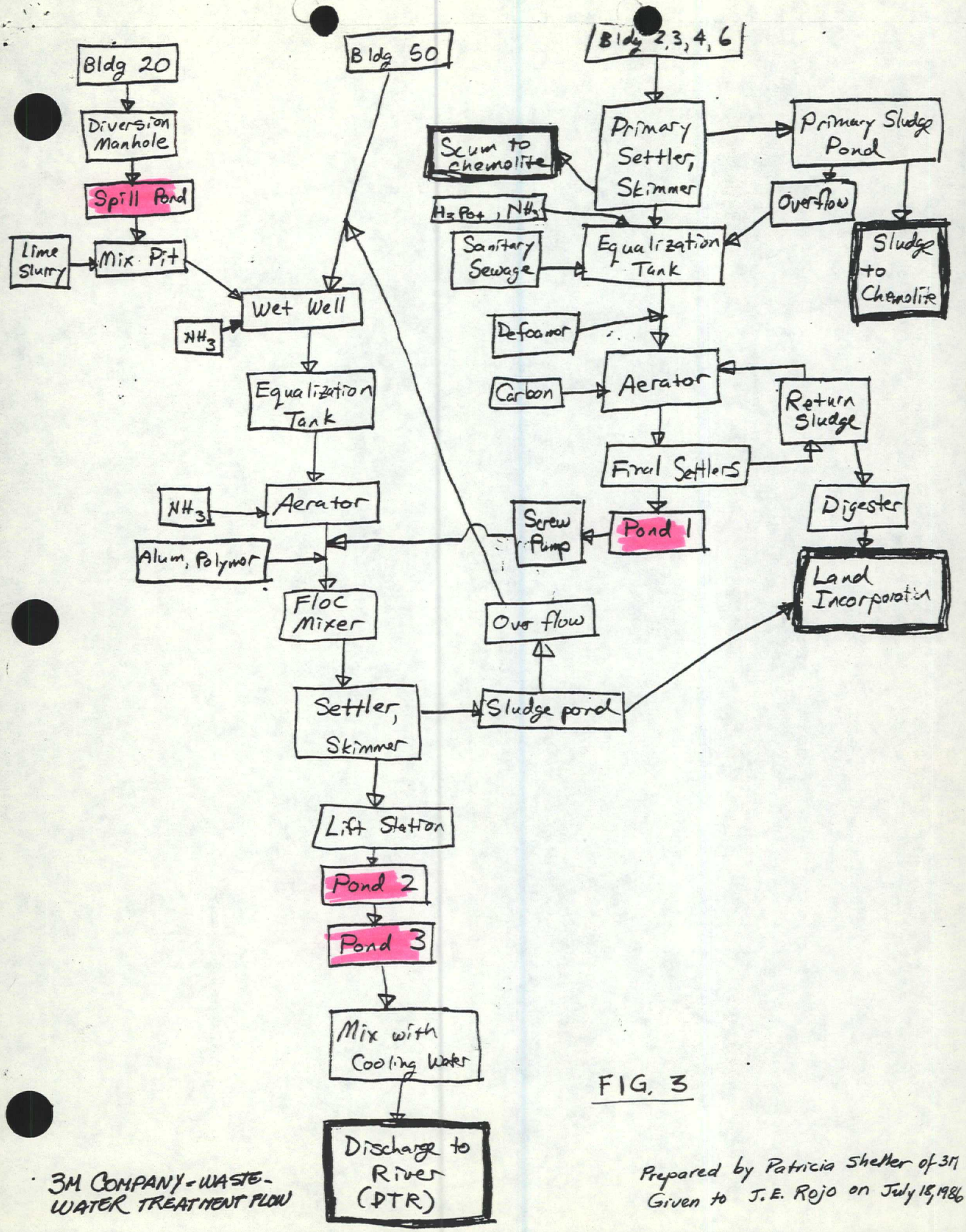


FIG. 3

3M COMPANY - WASTE-WATER TREATMENT FLOW

Prepared by Patricia Sheller of 3M
Given to J.E. Rojo on July 18, 1986

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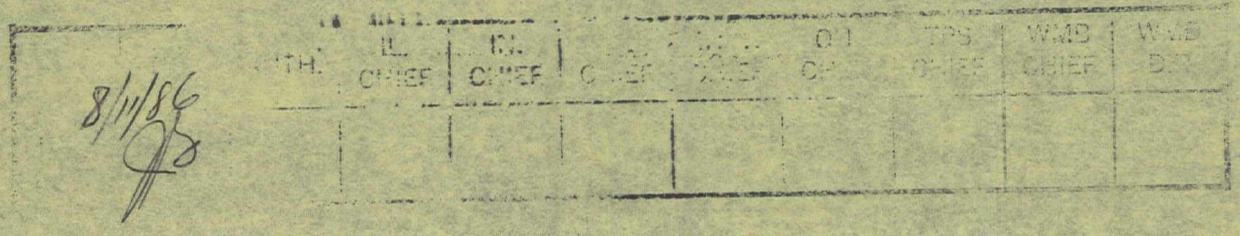


MEMORANDUM

TO: John S. Hunter, III, P.E., Ph.D., 3M
FROM: Pam Hoover, AquAeTer, Inc.
DATE: July 21, 1997
JOB NO.: 970533B/3
RE: **RFI Trip Report (June 9 through June 13, 1997)**

On June 9, 1997 the Resource Conservation and Recovery Act (RCRA) Facility Investigation field activities were initiated at the 3M Cordova, Illinois facility. The RFI was conducted in accordance with the RFI Work Plan (Revision 2, November 1996) approved by the United States Environmental Protection Agency (USEPA), Region 5, on April 4, 1997. Personnel from RUST, Environmental Standards, and AquAeTer were present. A list of personnel is provided as Table 1. The following activities were conducted during the RFI from June 9 through June 13, 1997:

- Collection of groundwater samples from twelve wells located in the Wastewater Treatment Plant;
- Collection of groundwater samples from five wells located in the Sludge Incorporation Area; and
- Collection of seven soil samples from the Sludge Incorporation Area.

Sample collection locations are shown in Figure 1. A list of the samples collected and the identification numbers is provided in Table 2. The samples collected, field analytical procedures performed, and quality control (QC) samples collected are listed in Table 3. Details of the activities are presented below.

GROUNDWATER SAMPLE COLLECTION

Groundwater samples were collected from twelve wells located in the Wastewater Treatment Plant. The sample collection occurred on June 9 through June 12, 1997. Groundwater samples were then collected from five wells located in the Sludge Incorporation Area on June 12 and 13, 1997. The nine steps followed for groundwater sample collection were the following:

1. The depth to water was measured using an electronic water level meter and recorded;
2. The volume of standing water in the monitoring well was computed;

3. A Keck Model SP84 submersible pump was installed in the well and pumping was begun;

4. After each well volume of groundwater was removed, temperature, pH, specific conductance, and turbidity measurements were taken and recorded in the logbook. The purging of the well continued until the parameters stabilized. Stabilization was reached when four replicate measurements were recorded (as defined in Section 3.3.3.5 of the Field Sampling Plan). The final parameter results and well volumes removed are presented in Table 4;

5. The wells recharge quickly at the Cordova site so samples were collected subsequent to stabilization of indicator parameters. Samples were collected in the order of volatilization sensitivity (volatile organics, semivolatile organics, polychlorinated biphenyls, metals, and water quality parameters). The samples were collected directly from the pump tubing into bottles supplied by the laboratory;

6. Disposable in-line filters were used to collect the samples for dissolved metal analysis;

7. After sample jars were filled, they were placed in sealed plastic bags and then on ice (an ice bath was used beginning June 11, 1997). Shortly thereafter, the jars were removed from the bags, and tags were secured to the sample jars. Then, the sample jars were replaced into sealed plastic bags and returned to the cooler with ice (or ice bath);

8. The final water elevation and indicator parameters were measured and recorded upon completion of sample collection at each well;

9. The water level indicator was decontaminated by rinsing the cord and probe with deionized (DI) water and drying with a paper towel as the indicator was being removed from the well; and

10. The pump system was also decontaminated between well locations. The outside of the tubing was cleaned with DI water and dried with a paper towel as tubing was removed from the well. The pump was cleaned by brushing with a soap and water mixture, rinsing with DI water, and drying with a paper towel. The inside of the pump and tubing were cleaned by pumping five gallons of DI water through the pump and tubing.

Four types of QC samples were also collected as described below.

1. The field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples were collected at the same time as the sample. One volatile organic analysis (VOA) vial was filled for the sample then the QC sample. The process was repeated until all sets of three vials were filled. For the other analyses, the investigative sample jar was filled half way, the QC sample jar was filled half way, the sample jar was filled completely, and then the QC jar was filled completely.

2. The trip blank was labeled and placed in a single cooler with ice at the beginning of each day. All VOA vials collected during the day were placed in this cooler as the samples were collected.

3. Equipment blanks were prepared by running laboratory-prepared water through the pump and tubing and then collecting the water in sample jars.

4. A field blank was prepared each day by pouring laboratory-prepared water into sample jars at a sampling location.

The sample jars filled each day were packaged for shipment and shipped at the end of that day to the Quanterra laboratory located in North Canton, Ohio. Due to time constraints, it was not possible to ship all the sample jars at the end of the day on Friday, June 13, 1997. The remaining sample jars were stored on ice, transported to the RUST office in Minneapolis, Minnesota, placed in a refrigerator under custody, and shipped on Monday, June 16, 1997. All coolers were shipped for overnight delivery by FedEx.

The laboratory reported that the temperature blank from the cooler containing the June 9, 1997 trip blank, VOA vials from wells sampled that day (MW 2-90 and MW 4-90), and an equipment blank was 13 °C upon arrival at the laboratory which is greater than the acceptable range of 4 °C±2 °C. Wells MW 2-90 and MW 4-90 were repurged and resampled, for VOA only, on June 12, 1997. In order to ensure that samples were chilled to 4 °C as soon as possible, beginning on June 11, 1997, all sample jars were placed in an ice bath while in the field. Particular attention was paid to cooling QC blank samples because the water was warm due to storage in the Boiler House.

SURFACE SOIL SAMPLE COLLECTION

Soil samples were collected at seven locations in the Sludge Incorporation Area on June 13, 1997. The following nine steps were followed while collecting the soil samples:

1. The sample point was documented using a global positioning system (GPS). The coordinates of the soil sample locations are found in Table 5;

2. Plant and other debris were removed from the surface of the location to be sampled;

3. A hand-held stainless steel auger was advanced to 12 inches;

4. The sample was immediately placed in a stainless steel bowl;

5. The sample bottles for volatile organics analysis were filled first;

6. It was determined if sufficient volume remained to fill all other sample containers. If not, additional volume was collected by auguring to 12 inches in a location next to the original sample location. This soil was added to the stainless steel bowl, homogenized, and then placed in the sample containers;

7. When collecting QC samples, each QC constituent container was filled immediately after the original sample container;

8. After each sample container was filled, it was placed in a sealed plastic bag and put on ice. The tag was completed and attached to the container. The container was returned to the cooler; and

9. The sample collection equipment was decontaminated by brushing off soil, scrubbing with a soap and water solution, rinsing with water, rinsing with methanol, rinsing with DI water, rinsing with nitric acid, and rinsing with DI water.

Four types of QC samples were also collected as described below:

1. The field duplicate and matrix spike/matrix spike duplicate samples were collected at the same time as the sample. One container was filled for the investigative sample then the QC sample. The process was repeated until all sets of containers were filled;

2. The trip blank was labeled and placed in a cooler with ice at the beginning of each day. All VOA vials collected during the day were placed in this cooler as the samples were collected;

3. Equipment blanks were prepared by pouring laboratory prepared water over the decontaminated sample collection equipment and collecting the water in sample jars; and

4. A field blank was prepared by pouring laboratory prepared water into sample jars at a sampling location. One field blank was prepared on June 13, 1997 to fulfill the field blank requirement for both the Sludge Incorporation Area soil and groundwater matrixes.

Some sample jars were packaged and shipped to the Quanterra laboratory located in North Canton, Ohio on Friday, June 13, 1997. The remaining samples were stored on ice, transported to the RUST office in Minneapolis, Minnesota, placed in a refrigerator under custody, and shipped to the laboratory on Monday, June 16, 1997. All coolers were shipped for overnight delivery by FedEx. In order to ensure that samples were chilled to 4°C as soon as possible, sample jars were placed in an ice bath while in the field. Particular attention was paid to cooling QC blank samples because the water was warm due to storage in the Boiler House.

VARIANCES TO THE WORK PLAN

The following is a list of eleven minor variances from the approved Work Plan. These variances were approved by the 3M Project Manager, Dr. John Hunter, prior to initiation of the modified activity. No major variances from the Work Plan occurred during the RFI.

1. The sample identification number on the sample labels and tags did not include the 3M coded sample numbers, so they were assigned in the field.

2. The equipment was decontaminated adjacent to the sample collection location instead of moving to a separate decontamination location.

3. An initial equipment blank was added to the QC samples to provide data on the condition of the pump and tubing as it was brought to the site. This sample was collected by running laboratory-prepared water through the pump and tubing and capturing the discharge in containers.

4. The pump flow rate was estimated as 1,000 mL/min for the dissolved metals sample collection (through the in-line filter) and 600 mL/min for the remaining analytical parameters. The flow rate of 200 mL/min was specified in the Work Plan was not achievable in the field.

5. The water level indicator was decontaminated by rinsing with DI water instead of rinsing with methanol and nitric acid.

6. A dissolved metals sample was not collected for field blanks because the type of filter used in the field required that the sample be run through the pump, making it an equipment blank.

7. If the well water was turbid, the pump rate was increased until the turbidity approached 5 NTUs and then the pump rate was lowered to approximately 600 mL/min. The purging procedure was modified for highly turbid wells after MW2-90 was purged and found to be highly turbid.

8. The following samples were unanticipated and therefore had only labels:

   - RFI-I Field Dup SIA-MW;
   - RFI-I MW2-90 Resample;
   - RFI-I MW2-90 MS/MSD Resample; and
   - RFI-I MW4-90 Resample.

9. On June 13, 1997, the sample collection team split into two groups. Ms. Cathy Larson came to the site to assist Mr. Jeff Lowenburg in collection of Sludge Incorporation Area groundwater samples. Mr. Chad Brown and Mr. Joe Eiffler collected soil samples from the Sludge Incorporation Area. Ms. Pam Hoover worked with the groundwater collection crew. Mr. Dan Claycomb provided oversight of the majority soil sample collection activities and some of the groundwater sample collection activities.

10. The trip blank for VOA soil samples collected on Friday, June 13, 1997 was not added to the cooler until Saturday, June 14, 1997 at the RUST office in Minneapolis, Minnesota.

If you have any questions or comments, please do not hesitate to contact me by telephone at (615) 373-8532 or by FAX at (615) 373-8512.

cc: C. Snyder, 3M
C. Larson, RUST
M. Clark, Environmental Standards

TABLE 1. RFI SAMPLING PERSONNEL

DAY	DATE	COMPANY	NAME	RESPONSIBILITY
Monday	June 9,1997	RUST	Jeff Lowenberg	Groundwater sample collection
			Chad Brown	Groundwater sample collection
		Environmental Standards	Dan Claycomb	Field Audit
		AquAeTer	Pam Hoover	Health and Safety and field activity oversight
Tuesday	June 10, 1997	RUST	Jeff Lowenberg	Groundwater sample collection
		Environmental Standards	Dan Claycomb	Field Audit
		AquAeTer	Pam Hoover	Health and Safety and field activity oversight
Wednesday	June 11,1997	RUST	Jeff Lowenberg	Groundwater sample collection
		Environmental Standards	Dan Claycomb	Field Audit
		AquAeTer	Pam Hoover	Health and Safety and field activity oversight
Thursday	June 12, 1997	RUST	Jeff Lowenberg	Groundwater sample collection
			Joe Eiffler	Groundwater sample collection
		Environmental Standards	Dan Claycomb	Field Audit
		AquAeTer	Pam Hoover	Health and Safety and field activity oversight
Friday	June 13, 1997	RUST	Jeff Lowenberg	SIA well sample collection
			Kathy Larson	SIA well sample collection
			Chad Brown	Soil sample collection
			Joe Eiffler	Soil sample collection
		Environmental Standards	Dan Claycomb	Field Audit
		AquAeTer	Pam Hoover	Health and Safety, field activity oversight and assist in SIA well sample collection

TABLE 2. RFI SAMPLE COLLECTED, 3M CORDOVA

SAMPLE NUMBER	3M NUMBER	DATE SAMPLED	TIME SAMPLED	DATE SHIPPED	COMMENTS
RFI-I Equipment Blk	R1807-13	June 9, 1997	10:05	June 9, 1997	
RFI-I MW 4-90 WWTP-EX-MW	R1807-1	June 9, 1997	11:55	June 9, 1997	
RFI MW 2-90 WWTP-EX-MW	R1807-2	June 9, 1997	14:10	June 9, 1997	
RFI-I MS/MSD WWTP-MW	R1807-14	June 9, 1997	14:10	June 9, 1997	(@MW2-90)
RFI-I Field Blank Day 1	R1807-15	June 9, 1997	15:40	June 9, 1997	
RFI-I MW1-90 WWTP-EX-MW	R1807-3	June 10, 1997	08:25	June 10, 1997	
RFI-I MW 5-94 WWTP-EX-MW	R1807-4	June 10, 1997	10:10	June 10, 1997	
RFI-I Field Blank Day 2	R1807-16	June 10, 1997	10:45	June 10, 1997	
RFI-I MW 6-94 WWTP - new-MW	R1807-5	June 10, 1997	12:05	June 10, 1997	
RFI-I MW 3-90 WWTP-EX-MW	R1807-6	June 10, 1997	13:25	June 10, 1997	
RFI-I MW 9-90 WWTP-EX-MW	R1807-7	June 10, 1997	14:50	June 10, 1997	
RFI-I Equipment Blank WWTP-EX-MW	R1807-17	June 10, 1997	15:15	June 10, 1997	
RFI-I MW 3-94 WWTP-NEW-MW	R1807-8	June 11, 1997	08:25	June 11, 1997	
RFI-I Trip Blank Day 1	R1807-18	June 9, 1997		June 9, 1997	
RFI-I Trip Blank Day 2	R1807-19	June 10, 1997		June 10, 1997	
RFI-I Trip Blank Day 3	R1807-20	June 11, 1997		June 11, 1997	
RFI-I MW 7-90 WWTP-EX-MW	R1807-9	June 11, 1997	10:10	June 11, 1997	
RFI-I Field Dup, WWTP Ex Well	R1807-21	June 11, 1997	10:10	June 11, 1997	@MW7-90
RFI-I MW 4-94 WWTP-NEW-MW	R1807-10	June 11, 1997	12:40	June 11, 1997	
RFI-I Field Dup WWTP New Well	R1807-22	June 11, 1997	12:40	June 11, 1997	@MW4-94
RFI-I Equipment Blk WWTP-NEW-MW	R1807-23	June 11, 1997	14:30	June 11, 1997	
RFI-I Field Blank Day 3	R1807-24	June 11, 1997	14:55	June 11, 1997	
RFI-I MW 1-88 WWTP-EX-MW	R1807-11	June 12, 1997	08:50	June 12, 1997	
RFI-I MW 8-90 WWTP-EX-MW	R1807-12	June 12, 1997	10:10	June 12, 1997	
RFI-I Field Blank Day 4	R1807-26	June 12, 1997	10:40	June 12, 1997	
RFI-I MW 2-90 Resample	R1807-27	June 12, 1997	12:20	June 12, 1997	Labels but no tags, VOC only
RFI-I MW 2-90 MS/MSD Resample	R1807-28	June 12, 1997	12:20	June 12, 1997	Labels but no tags, VOC only
RFI-I MW 4-90 Resample	R1807-29	June 12, 1997	13:25	June 12, 1997	Labels but no tags, VOC only
RFI-I MW 5-90 SIA-MW	R1807-30	June 12, 1997	14:35	June 12, 1997	
RFI-I Field Blank Day 4 - SIA	R1807-35	June 12, 1997	15:05	June 12, 1997	
RFI-I Trip Blank Day 4	R1807-25	June 12, 1997		June 12, 1997	
RFI-I MW 7-94 SIA-MW	R1807-31	June 13, 1997	08:15	June 13, 1997	MS/MSD collected here
RFI-I MW 2-94 SIA-MW	R1807-32	June 13, 1997	10:45	June 16, 1997	
RFI-I MW 6-90 SIA-MW	R1807-33	June 13, 1997	12:20	June 16, 1997	
RFI-I MW 1-94 SIA-MW	R1807-34	June 13, 1997	14:55	June 16, 1997	Field dup taken here
RFI-I MS/MSD SIA - MW	R1807-36	June 13, 1997	08:15	June 13, 1997	R1807-34 on the chain of custody for all analytes except VOCs. Corrected chain provided to lab.
RFI-I Equipment Blk SIA - MW	R1807-37	June 13, 1997	09:30	June 16, 1997	Taken after sampling MW7-94
RFI-I Trip Blank Day 5	R1807-38	June 13, 1997		June 16, 1997	
RFI-I Field Dup SIA - MW	R1807-39	June 13, 1997	14:55	June 16, 1997	Taken at MW1-94. Label but no tag on one bottle for Method 8080.
RFI-I Field Blank Day 5	R1807-40	June 13, 1997	16:30	June 16, 1997	Taken after sampling MW1-94
RFI-I Trip Blank Day 5B	R1807-41	June 13, 1997		June 16, 1997	Only associated with Field Blank Day 5. Sample bottles received in a separate shipment.
RFI-I SS-1 SIA-SS	R1807-50	June 13, 1997	13:10	June 16, 1997	
RFI-I SS-2 SIA-SS	R1807-51	June 13, 1997	11:25	June 16, 1997	Field dup taken here
RFI-I SS-3 SIA-SS	R1807-52	June 13, 1997	12:25	June 16, 1997	MS/MSD taken here
RFI-I SS-4 SIA-SS	R1807-53	June 13, 1997	13:40	June 16, 1997	
RFI-I SS-5 SIA-SS	R1807-54	June 13, 1997	14:20	June 16, 1997	
RFI-I SS-6 SIA-SS	R1807-55	June 13, 1997	14:45	June 16, 1997	
RFI-I SS-7 SIA-SS	R1807-56	June 13, 1997	09:43	June 16, 1997	
RFI-I SS Equipment Blk SIA SS	R1807-57	June 13, 1997	11:00	June 16, 1997	Taken prior to sampling ISS-2
RFI-I SS Field Dup SIA-SS	R1807-58	June 13, 1997	11:25	June 16, 1997	Taken at ISS-2
RFI-I SS MS/MSD SIA-SS	R1807-59	June 13, 1997	12:25	June 16, 1997	Taken at ISS-2

TABLE 3. GROUNDWATER AND SURFACE SOIL SAMPLE COLLECTION INFORMATION

SURFACE SOIL/ MONITORING WELLS IDENTIFICATION	CONSTITUENTS TO BE MONITORED (1)	NUMBER OF FIELD BLANKS (2)	NUMBER OF TRIP BLANKS (3)	NUMBER OF EQUIPMENT BLANKS (4)	NUMBER OF FIELD DUPLICATES (5)	NUMBER OF MS/MSD (6)	CONTAINERS (7)				HOLDING TIME (8)	ANALYTICAL METHOD	PARAMETER
							QUANTITY	SIZE	TYPE	PRESERVATIVE			
WASTEWATER TREATMENT PLANT AREA (WWTPA)													
Existing Wells: RFI-I MW1-88 RFI-I MW1-90 RFI-I MW2-90 RFI-I MW3-90 RFI-I MW4-90 RFI-I MW7-90 RFI-I MW8-90 RFI-I MW9-90	40 CFR 264 Appendix IX Volatile Organic & Hexachlorobenzene, PCBs & Total & Dissolved Metals, Total & Dissolved Water Quality Metals & Water Quality Characteristics	2	2	2	1	2	3	40 mL	glass vial with teflon-lined septa and no headspace	HCl, pH <2 Cool, 4 °C	14 days	8260A	Appendix IX volatiles
		2	0	2	1	2	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	7 days extraction 40 days (analysis)	8080A	Appendix IX PCBs/ Hexachlorobenzene
		2	0	2	1	2	1	1 L	high density polyethylene	HN03, pH <2	6 months	6010A (trace)	total Appendix IX & water quality metals except mercury
											28 days	7470A	total mercury
		2	0	2	1	2	1	1 L	high density polyethylene	Field filtered through 0.45 um filter then: HN03, pH <2	6 months	6010A	dissolved Appendix IX & water quality metals except mercury
											28 days	7470A	dissolved mercury
		2	0	2	1	2	1	250 mL	high density polyethylene	HNO3, pH <2 Cool, 4 °C	6 months	130.2	total hardness
		2	0	2	1	2	1	1 L	high density polyethylene	Cool, 4 °C	14 days	310.1	alkalinity
											28 days	325.3/9252A	chloride
											28 days	340.2	fluoride
											28 days	375.4	sulfate
		2	0	2	1	2	1	250 mL	glass	H2SO4, pH <2 Cool, 4 °C	28 days	353.2	total nitrate/nitrite nitrogen
		2	0	2	1	2	1	250 mL	high density polyethylene	NaOH, pH >12 Cool, 4 °C	14 days	9012	total cyanide
		2	0	2	1	2	1	1 L	high density polyethylene	NaOH, Zn Acetate pH >9, Cool, 4 °C	7 days	376.1/9030A	sulfide
Newly installed Wells: RFI-I MW3-94 RFI-I MW4-94 RFI-I MW5-94 RFI-I MW6-94	40 CFR 264 Appendix IX Organic Constituents (except pesticides, dioxins, & furans) & 40 CFR 264 Appendix IX Total & Dissolved Metals	2	2	1	1	0	3	40 mL	glass vial with teflon-lined septa and no headspace	HCl, pH <2 Cool, 4 °C	14 days	8260A	Appendix IX volatiles
		2	0	1	1	0	1	1 L	high density polyethylene	HNO3, pH <2	6 months	6010A (trace)	total Appendix IX metals except mercury
											28 days	7470A	total mercury
		2	0	1	1	0	1	1 L	high density polyethylene	Field filtered through 0.45 um filter then: HNO3, pH <2	6 months	6010A (trace)	dissolved Appendix IX metals except mercury
											28 days	7470A	dissolved mercury
		2	0	1	1	0	1	250 mL	high density polyethylene	NaOH, pH >12 Cool, 4 °C	14 days	9012	total cyanide
		2	0	1	1	0	1	1 L	high density polyethylene	NaOH, Zn Acetate pH >9, Cool, 4 °C	7 days	376.1/9030A	sulfide
		2	0	1	1	0	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	7 days (extraction) 40 days (analysis)	8270B	Appendix IX semivolatile organics
		2	0	1	1	0	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	7 days (extraction) 40 days (analysis)	8080A	Appendix IX PCBs/ Hexachlorobenzene
		2	0	1	1	0	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	7 days (extraction) 40 days (analysis)	8150B	Appendix IX herbicides
SLUDGE INCORPORATION AREA (SIA)													
Wells: RFI-I MW5-90 RFI-I MW6-90 RFI-I MW1-94 RFI-I MW2-94 RFI-I MW7-94	40 CFR 264 Appendix IX Organic Constituents (except pesticides, dioxins, & furans) & 40 CFR 264 Appendix IX Total & Dissolved Metals	2	2	1	1	1	3	40 mL	glass vial with teflon-lined septa and no headspace	HCl, pH <2 Cool, 4 °C	14 days	8260A	Appendix IX volatiles
		2	0	1	1	1	1	1 L	high density polyethylene	HNO3, pH <2	6 months	6010A (trace)	total Appendix IX metals except mercury
											28 days	7470A	total mercury
		2	0	1	1	1	1	1 L	high density polyethylene	Field filtered through 0.45 um filter then: HNO3, pH <2	6 months	6010A (trace)	dissolved Appendix IX metals except mercury
											28 days	7470A	dissolved mercury

TABLE 3. GROUNDWATER AND SURFACE SOIL SAMPLE COLLECTION INFORMATION

SURFACE SOIL/ MONITORING WELLS IDENTIFICATION	CONSTITUENTS TO BE MONITORED (1)	NUMBER OF FIELD BLANKS (2)	NUMBER OF TRIP BLANKS (3)	NUMBER OF EQUIPMENT BLANKS (4)	NUMBER OF FIELD DUPLICATES (5)	NUMBER OF MS/MSD (6)	CONTAINERS (7)				HOLDING TIME (8)	ANALYTICAL METHOD	PARAMETER
							QUANTITY	SIZE	TYPE	PRESERVATIVE			
Wells: (Continued)		2	0	1	1	1	1	250 mL	high density polyethylene	NaOH, pH >12 Cool, 4 °C	14 days	9012	total cyanide
		2	0	1	1	1	1	1 L	high density polyethylene	NaOH, Zn Acetate pH>9, Cool 4 °C	7 days	376.1/9030A	sulfide
		2	0	1	1	1	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	14 days (extraction) 40 days (analysis)	8270B	Appendix IX semivolatile organics
		2	0	1	1	1	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	14 days (extraction) 40 days (analysis)	8080A	Appendix IX PCBs/ Hexachlorobenzene
		2	0	1	1	1	2	1 L	amber glass with teflon-lined lid	Cool, 4 °C	14 days (extraction) 40 days (analysis)	8150B	Appendix IX herbicides
Surface Soil: RFI-I SS1 RFI-I SS2 RFI-I SS3 RFI-I SS4 RFI-I SS5 RFI-I SS6 RFI-I SS7	40 CFR 264 Appendix IX Organic Constituents (except pesticides, dioxins, & furans) & 40 CFR 264 Appendix IX Total & Dissolved Metals	1	1	1	1	1	2	60 mL	glass jar with teflon-lined lid	Cool, 4 °C	14 days	8260A	Appendix IX volatiles
		1	0	1	1	1	3	120 mL	glass with teflon-lined lid	Cool, 4 °C	6 months	6010A (trace)	Appendix IX metals except mercury
											28 days	7471A	mercury
											14 days	9012	total cyanide
											7 days	376.1/9030A	sulfide
											14 days (extraction) 40 days (analysis)	8270B	Appendix IX semivolatile organics
											14 days (extraction) 40 days (analysis)	8080A	Appendix IX PCBs
											14 days (extraction) 40 days (analysis)	8150B	Appendix IX herbicides

Table 3 Notes;

(1) After each monitoring well is purged, a sample was collected and measured for pH, temperature, specific conductivity, and turbidity in the field.

(2) A field blank consists of contaminant-free deionized distilled water placed into sample container(s) (same quantity, size, type, and preservative as for investigative aqueous samples) in the field and packaged and shipped with the associated samples.
One field blank was prepared on June 13, 1997 to fulfill the field blank requirement for both the Sludge Incorporation Area soil and groundwater matrixes.

(3) A trip blank consists of two preserved VOA vials with no headspace containing organic-free water which accompany the sample bottles during collection and shipment to the laboratory and are stored with the associated samples.
A trip blank was included in each shuttle containing samples for volatile organics analysis.

(4) An equipment blank is a field blank which has also been run through the sampling equipment before it is placed into the sample containers.
An equipment blank was taken after sample collection is completed for each sample matrix at each SWMU (WWTPA and Sludge Incorporation Area).
Each equipment blank was analyzed for all parameters requested for analysis in any of the samples of the same matrix in the associated SWMU.

(5) A field duplicate consists of additional container(s) (same quantity, size, type, and preservative as the original sample) of an investigative sample which are labeled with an unique identifier.
Field duplicates were collected for each parameter list for the WWTPA and Sludge Incorporation Area SWUs (i.e., one existing and one newly installed well in the WWTPA and one well and one soil location in the Sludge Incorporation Area).
Field duplicates were collected from three of the 17 wells and one of the soil locations which exceeds the standard goal of one field duplicate for every 20 samples of a similar matrix.

(6) Matrix spike/matrix spike duplicate.
Extra containers for a sample (2 extra volumes of the same quantity, size, type, and preservative as the original sample) to be collected at a frequency to meet the analytical method requirements of one "MS/MSD" set per 20 samples of the same matrix.

(7) The table indicates the number of containers necessary for the analysis of a sample from each location indicated. Additional containers were necessary for any required quality control samples.

(8) The holding times specified are from date of sample collection to the date of analysis unless otherwise specified.

(9) Sample containers were combined for a total quantity of 3 120 mL glass jars for the following six fractions: Appendix IX metals, total cyanide , sulfide, Appendix IX semivolitles, Appendix IX PCBs, and Appendix IX herbicides.

TABLE 4. SUMMARY OF FINAL WELL PARAMETER RESULTS

WELL SAMPLE NO.	VOLUME REMOVED (gal)	WATER LEVEL ELEVATION (ft)	pH	CONDUCTIVITY (µOhms/cm)	TEMPERATURE (° C)	COLOR	ODOR (Y/N)	TURBIDITY (NTU)
RFI-I MW1-88	45.2	573.40	6.83	304	9.4	Clear	N	2.2
RFI-I MW1-90	17.0	573.51	6.57	298	12.2	Clear	N	1.34
RFI-I MW2-90	45.0	573.27	6.67	399	12.1	Clear	N	3.7
RFI-I MW3-90	17.3	573.66	6.33	675	17.2	Clear	N	0.94
RFI-I MW4-90	9.1	573.46	7.00	449	14.3	Clear	N	1.1
RFI-I MW5-90	12.8	574.17	7.34	552	12.5	Clear	N	1.6
RFI- I MW6-90	34.0	568.23	7.35	484	13.0	Clear	N	1.7
RFI-I MW7-90	8.0	573.59	7.16	420	15.7	Clear	N	0.5
RFI-I MW8-90	18.8	573.47	6.22	557	14.4	Clear	N	2.8
RFI-I MW9-90	28.0	573.69	6.64	466	17.5	Clear	N	1.50
RFI-I MW1-94	27.2	570.64	7.42	667	15.8	Clear	N	0.61
RFI-I MW2-94	16.0	572.87	8.51	501	14.1	Clear	N	1.7
RFI-I MW3-94	18.0	574.99	6.44	598	15.8	Clear	N	0.6
RFI-I MW4-94	12.5	573.59	6.49	626	14.7	Clear	N	1.0
RFI-I MW5-94	14.7	573.56	6.83	340	17.2	Clear	N	1.20
RFI-I MW6-94	24.0	573.57	7.08	364	17.4	Clear	N	0.78
RFI-I MW7-94	14.0	573.08	6.32	569	13.9	Clear	N	0.7

TABLE 5. SOIL SAMPLE LOCATIONS

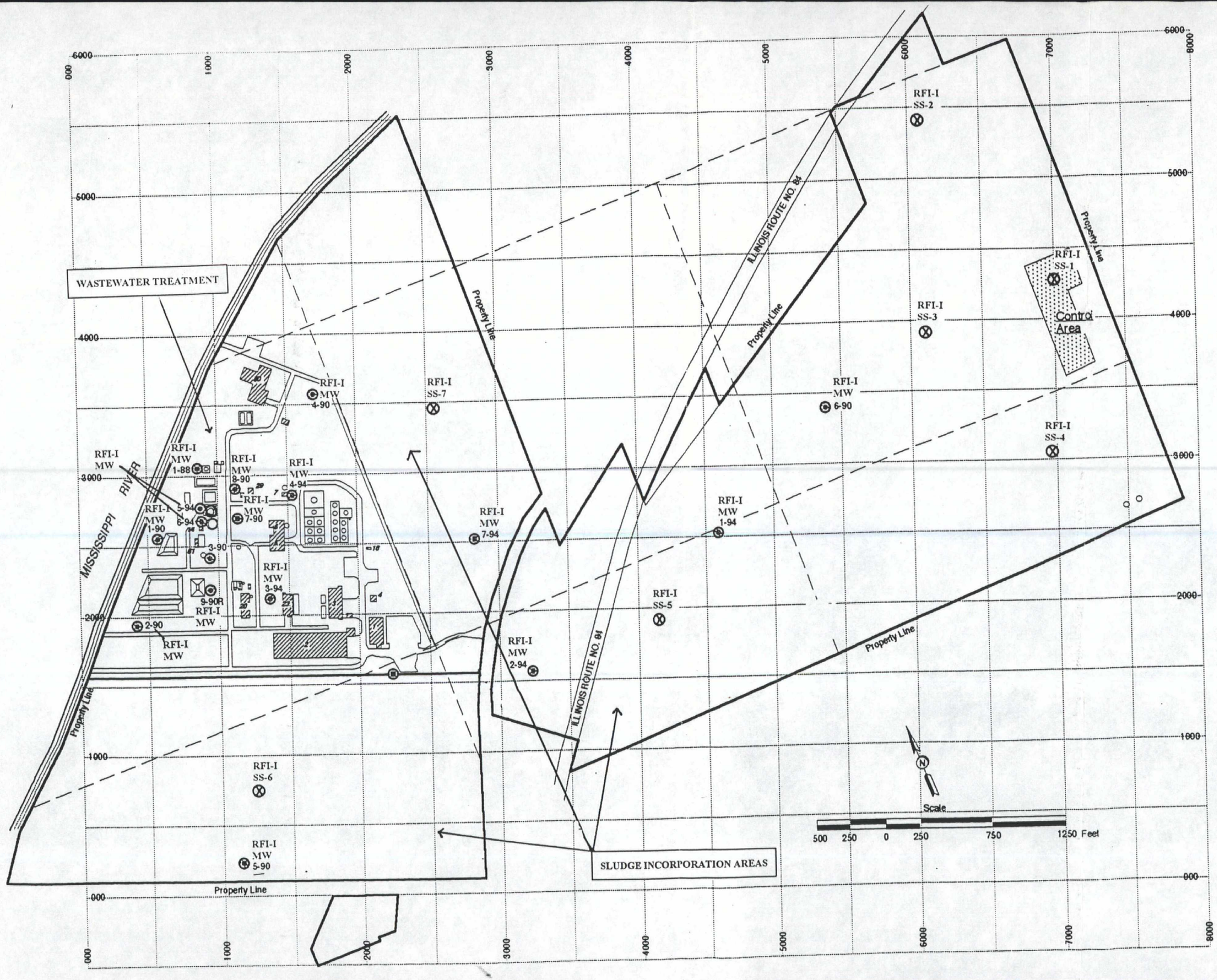
SOIL SAMPLE	LATITUDE	LONGITUDE
RFI-ISS-1 SIA-SS	41° 45' 15.401" N	90° 15' 59.291" W
RFI-ISS-2 SIA-SS	41° 45' 25.458" N	90° 16' 06.863" W
RFI-ISS-3 SIA-SS	41° 45' 15.778" N	90° 16' 15.170" W
RFI-ISS-4 SIA-SS	41° 45' 01.970" N	90° 16' 11.683" W
RFI-ISS-5 SIA-SS	41° 45' 04.443" N	90° 16' 40.576" W
RFI-ISS-6 SIA-SS	41° 44' 59.408" N	90° 17' 27.921" W
RFI-ISS-7 SIA-SS	41° 45' 17.911" N	90° 17' 03.281" W

Revision 2
Date: November 1996

3M

CORDOVA

Monitor Well And Soil Sampling Locations Used In RFI



- ⊕ Monitor Well Location
- ⊗ Soil Sampling Location

FIGURE 1

Revised November 1996

7/15/85

Attachment 2

Name of Preparer: J. E. Rojo
Date: 9-26-86

Model Facility Management Plan

1. Facility Name: 3M CORDOVA

2. Facility I.D. Number: ILD054236443

3. Owner and/or Operator: 3M COMPANY

4. Facility Location: 22614 Route 84N
Street Address

Cordova Rock Island Ill. 61242
City County State Zip Code

5. Facility Telephone (if available): (612) 778 5036

6. Interim Status and/or Permitted Hazardous Waste Units and Capacities of Each Unit:

Type of Units	Size or Capacity	Active or Closed
X Storage in Tanks or Containers S01	103,000 GAL	Active
X Incinerator T03	200 GAL/HR + 0.44 TONS/HR	Active
___ Landfill		
___ Surface Impoundment		
___ Waste Pile		
___ Land Treatment		
___ Injection Wells		
___ Others (Specify)		

7. Permit Application Status: 97 (HWDMS action item number)

8. Identification of Hazardous Waste Generated, Treated, Stored or Disposed at the Facility: (may attach Part A or permit list or reference those documents if listing of wastes is exceptionally long - in that case, to complete this question list wastes of greatest interest and/or quantity and note that additional wastes are managed)

Type of Waste	Quantity	Generated, Treated, Stored or Disposed (note appropriate categories)
D001, D002, D007, D009, F003, F005	4'673,000 pounds	Stored
D001	2'650,000 pounds	Stored and Incinerated

9. Review of Response to Solid Waste Management Questionaire indicates: (check one)

__X__ Solid Waste Management Units exist (other than previously identified RCRA units)

_____ No Solid Waste Management Units exist (other than previously identified RCRA units)

_____ It is unclear from review of questionaire whether or not any solid Waste Management Units exist

_____ Respondent indicates that does not know if any Solid Waste Management Units exist

10. If the response to question 9 is that Solid Waste Management Units exist, than check one of the following:

__X__ Releases of hazardous waste or constituents have occurred or are thought to have occurred

_____ Releases of hazardous waste or constituents have not occurred

_____ Releases of hazardous waste or constituents have occurred or are thought to have occurred but have been adequately remedied

_____ It is not known whether a release of hazardous waste or constituents has occurred

11. The facility is on the National Priorities List or proposed update of the List or ERRIS list

_____ Yes - indicate List or update

__X__ No

_____ Yes - ERRIS list

Prior to completion of the Recommendation portion of the Facility Management Plan, the attached Appendix must be completed.

12. Recommendation for Regional Approach to the Facility: Check one

_____ Further Investigation to Evaluate Facility

__X__ Permit Compliance Schedule

_____ Corrective Action Order (may include compliance schedule)

_____ Other Administrative Enforcement

_____ Federal Judicial Enforcement

_____ Referral to CERCLA for Federally Financed or Enforcement Activity

_____ Voluntary/Negotiated Action

_____ State Action

Brief narrative in explanation of selection : Because both soil and groundwater contamination is suspected at the 3M facility, the permit will specify the actions required from 3M to determine the existence and/or extent of the releases. A corrective action program will be implemented (if needed), based on the results from the 3M investigation and/or additional available data from other sources (U.S. EPA sampling data, etc.)

a) If further investigation alternative is selected:

_____ Site inspection - anticipated inspection date _____

State or Federal inspection _____

_____ Preliminary Assessment - anticipated completion date _____

_____ RI/FS - anticipated date of initiation _____

State/Federal_____

Private Party_____ identify party(ies)

_____

b) If Permit Alternative is Selected: Projected Schedule

Date of Part B Submission: _____

Date of Completeness Check: _____

Date for Additional Submissions (if required): _____

Date of Completion of Technical Review: _____

Completion of Draft Permit/Permit Denial: _____

Public Notice for Permit Decision: 1st Quarter FY 1987

Date of Hearing (if appropriate): _____

Date for Final Permit or Denial Issuance: 2nd Qtr. FY 1987

Description of any corrective action provisions to be included in permit - See Item 12.

c) If Corrective Action Order Alternative is Selected:

Estimated Date for Order Issuance: _____

Description of Provisions of the Order to be Completed by Facility: _____

Description of Compliance Schedule to be Contained in Order:

d) If Other Administrative Enforcement Action is Selected:

Projected Date for Issuance of the Order: _____

Description of Provisions or Goals of the Order: _____

_____

_____

e) If Judicial Enforcement Alternative Selected:

Date of Referral to Office of Regional Counsel:_____

f) If Referral to CERCLA for Action Selected:

Date of Referral to CERCLA Sections:_____

g) If Voluntary/Negotiated Action Alternative if Selected:

Date of Initial Contact with Facility:_____

Description of Goals of Contact or Discussions with Facility: _____

_____

_____

_____

Date for Termination of Discussions if Not Successful:

_____

Date of Finalization of Settlement if Negotiation Successful:

_____

h) If State Action Alternative is Selected:

Date for Referral to State:_____

Name of State Contact:_____

Phone: _____